| U.S. Department of Commerce, Patent and Trademark Office   |      |  |                    |             | Attorney Docket No.: Application No.: | 081-0003<br>10/729,540  |         |  |
|--|------|--|--------------------|-------------|---------------------------------------|---|---------|--|
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT MAY 1 7 2004 |      |  |                    |             | Applicant(s):                         | Darius Martin Sullivan<br>and Nicholas Patrick<br>Roland Hill |         |  |
| 8/   |      |  |                    |             | Filing Date:                          | December 5, 2   | 003     |  |
| PRADE  | ARKS |  |                    | <u> </u>    | Group Art Unit:                       | 2857  |         |  |
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|  |      |  | U.S. Patent Docu   | nents       |                                       |   |         |  |
| Examiner<br>Initial  |      | Document<br>Number   | Date               |             | Name                                  |   |         |  |
| lin  | AA   | 4,246,439  | Jan. 20, 1981      | Romein      | /                                     |   |         |  |
| 1  | AB   | 4,389,711  | Jun. 21, 1983      | Hotta et al |                                       |   |         |  |
|  | AC   | 4,393,268  | Jul. 12, 1983      | Guedj et a  | edj et al.                            |   |         |  |
|  | AD   | 5,161,126  | Nov. 3, 1992       | Marcus      | us ·                                  |   |         |  |
|  | AE   | 5,162,618  | Nov. 10, 1992      | Knowles     | es                                    |   |         |  |
|  | AF   | 5,305,239  | Apr. 19, 1994      | Kinra       |                                       |   |         |  |
|  | AG   | 5,329,070  | Jul. 12, 1994      | Knowles     |                                       |   |         |  |
|  | AH   | 5,412,189  | May 2, 1995        | Cragun      |                                       |   |         |  |
|  | ΑĪ   | 5,541,372  | Jul. 30, 1996      | Baller et a | 1.                                    |   |         |  |
|  | AJ   | 5,591,945  | Jan. 7, 1997       | Kent        |                                       |   |         |  |
| m  | AK   | 5,628,031  | May 6, 1997        | Kikinis et  | al.                                   |   | <u></u> |  |
|  |      |  | Foreign Patent Doo | uments      |                                       |   |         |  |
|  |      |  |                    |             |                                       | Trans   | slation |  |
|  |      | Document   | Date               |             | Country                               | Yes   | No      |  |
| an   | AL   | 0 296 569 A2   | Dec. 28, 1988      |             |                                       |   | V       |  |
| 1  | AM   | 0 526 879 A1   | Feb. 10, 1993      | Europe      |                                       |   | V       |  |
|  | AN   | 0 597 228 A2   | May 18, 1994       | Europe      |                                       |   | V       |  |
| hi   | AO   | 0 656 603 A1   | Jun. 7, 1995       | Europe      |                                       |   | V       |  |
|  |      | OTHER ART (Incl  |                    |             |                                       |   |         |  |
| hu   | AP   | Bendat et al., Engineering Appli<br>Identification" and Chapter 7 en<br>1980, pp. 121-167.   |                    |             |                                       |   |         |  |
|  | AQ   | Brink, M. C., "The Acoustic Representation of Bending Waves", Laboratory of Acoustic Imaging and Sound Control, Delft University of Technology, November 2002, pp. i-69. |                    |             |                                       |   |         |  |
| m,   | AR   | Ishii Hiroshi, et al., "PingPongP<br>Play", Published in the Proceed   |                    |             |                                       | Supported Coop  | erative |  |
| xaminer  | uli  | Date Con   | nsidered           | 10/5        | 104                                   |   |         |  |
| EXAMINER   |      | f reference considered, whether or<br>insidered. Include copy of this for  |                    |             |                                       | rough citation if   | not in  |  |

| J.S. Department of Commerce, Patent and Trademark Office |             |  |  |                                 | Attorney Docket No.:                                   | 081-0003  |                |  |  |
|--|-------------|--|--|---------------------------------|--|---|----------------|--|--|
|  |             |  |  |                                 | Application No.:                                       | 10/729,540  |                |  |  |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT            |             |  |  |                                 | Applicant(s):  | Darius Martin Sullivan<br>and Nicholas Patrick<br>Roland Hill |                |  |  |
|  |             | (Use several sheets if necess  | Filing Date:                                   | December 5, 20                  | 003  |   |                |  |  |
|  |             |  | Group Art Unit:                                | 2857                            |  |   |                |  |  |
|  |             |  |  |                                 | Date Submitted:  | May 13, 2004  |                |  |  |
|  |             |  | U.S. Patent Docum                              | nents                           |  |   |                |  |  |
| Examiner<br>Initial                                      |             | Document<br>Number   | Date   |                                 | Name   |   |                |  |  |
| La .   | AS          | 5,637,839  | Jun. 10, 1997                                  | Yamaguch                        | i et al.   |   |                |  |  |
| 1  | AT          | 5,638,093  | Jun. 10, 1997                                  | Takahashi et al.                |  |   |                |  |  |
| 1  | AU          | 5,691,959  | Nov. 25, 1997                                  | Kriewall et al.                 |  |   |                |  |  |
| 1  | ΑV          | 5,717,434  | Feb. 10, 1998                                  | Toda                            |  |   |                |  |  |
|  | AW          | 5,831,934  | Nov. 3, 1998                                   | Gill et al.                     | Gill et al.  |   |                |  |  |
| AX 5,856,820 Jan. 5, 1999 Weigers                        |             |  |  | Weigers et                      | t al.  |   |                |  |  |
| AY 5,877,458 Mar. 2, 1999                                |             |  | Mar. 2, 1999                                   | Flowers                         |  |   |                |  |  |
|  | ΑZ          | 5,986,224  | Nov. 16, 1999                                  | Kent                            |  |   |                |  |  |
| BA 6,049,328 Apr. 11, 2000 V                             |             |  | Vanderhei                                      | eiden                           |  |   |                |  |  |
| 1  | BB          | 6,072,475  | Jun. 6, 2000                                   | van Ketwi                       | an Ketwich   |   |                |  |  |
| ju   | ВС          | 6,091,406  | et al.   |                                 |  |   |                |  |  |
|  |             |  | Foreign Patent Doc                             | uments                          |  |   |                |  |  |
|  |             | · · · · · · · · · · · · · · · · · · ·  |  |                                 |  | Trans   | lation         |  |  |
|  | Document    |  | Date   |                                 | Country  | Yes   | No             |  |  |
| m  | BD          | FR 2 787 608 (with English abstract)   | Jun. 23, 2000                                  | France                          |  |   | х              |  |  |
|  | BE          | GB 2 301 217 A   | Nov. 27, 1996                                  | United Ki                       | ngdom  |   |                |  |  |
| a  | BF          | WO 94/02911  | Feb. 3, 1994                                   | PCT                             |  |   | ļ <u>.</u>     |  |  |
|  |             | OTHER ART (Incl  | uding Author, Title,                           | Date, Pertine                   | nt Pages, Etc.)  |   |                |  |  |
| lu   | BG          | Kim, Young Jin, et al., "Acousti   | c Generation in Liqui                          | d Crystals", S                  | eptember 27, 1999, Vol.                                | 75, No. 13, pp. 1   | 985-198        |  |  |
|  | вн          | Paradiso, J. A., et al., "Passive Acoustic Knock Tracking for Interactive Windows", ACM CHI 2002 Conference, Minneapolis, Minnesota, April 20-25, 2002, (2 pages). |  |                                 |  |   |                |  |  |
| hi   | ВІ          | Paradiso, J. A., "Several Sensor<br>Workshop on Collaboration wit  | Approaches that Retr<br>h Interactive Walls an | ofit Large Sur<br>d Tables, Got | faces for Interactivity", A<br>henburg, Sweden, Septen | CM Ubicomp 2<br>nber 29, 2002, p                              | 002<br>o. 1-8. |  |  |
| xaminer  | tid         | Date Con   | nsidered                                       | 0/5/0                           | Ч  |   | <u> </u>       |  |  |
| EXAMINER<br>onformance a                                 | : Initial i | f reference considered, whether or onsidered. Include copy of this for   | not citation is in conf<br>m with your communi | ormance with                    | MPEP 609; Draw line th                                 | rough citation if   | not in         |  |  |

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U.S. Department of Commerce, Patent and Trademark Office Attorney Docket No.: 081-0003 Application No.: 10/729,540 INFORMATION DISCLOSURE STATEMENT BY APPLICANT Applicant(s): Darius Martin Sullivan and Nicholas Patrick Roland Hill (Use several sheets if necessary) Filing Date: December 5, 2003 Group Art Unit: 2857 **Date Submitted:** May 13, 2004 **U.S. Patent Documents** \*Examiner **Document** Date Name Initial Number BJ 6,157,373 Dec. 5, 2000 Rego BK 6,160,757 Dec. 12, 2000 Täger et al. BL 6,246,638 Jun. 12, 2001 Zook et al. BM 6,335,725 Jan. 1, 2002 Koh et al. BN 6,366,277 Apr. 2, 2002 Armstrong BO 6,384,743 May 7, 2002 Vanderheiden BP 6,400,996 Jun. 4, 2002 Hoffberg et al. BQ US 2003/0066692 A1 Apr. 10, 2003 Devige et al. BR US 2001/0006006 A1 Jul. 5, 2001 Hill BS US 2002/0135570 A1 lisaka et al. Sep. 26, 2002 Foreign Patent Documents Translation **Document** Date Yes Country No BT WO 96/11378 (with English Apr. 18, 1996 **PCT** Х abstract) BU WO 97/09842 Mar. 13, 1997 **PCT** BVWO 97/09847 **PCT** Mar. 13, 1997 BW WO 00/38104 Jun. 29, 2000 **PCT** BXWO 01/48684 A2 Jul. 5, 2001 **PCT** BY WO 02/01490 A1 Jan. 3, 2002 **PCT** Х BZ WO 03/005292 A1 **PCT** Jan. 16, 2003 OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.) Examiner **Date Considered** \*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

| U.S. Department of Commerce, Patent and Trademark Office |              |   |  |                | Attorney Docket No.:          | Attorney Docket No.: 081-0003 |          |  |
|--|--------------|---|--|----------------|-------------------------------|-------------------------------|----------|--|
|  |              |   | Application No.:                               | 10/729,540     |                               |                               |          |  |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT            |              |   |  |                | Applicant(s):                 | Darius Martin                 | Sullivan |  |
| several sheets if necessary)                             |              |   |  |                | Filing Date:                  | December 5, 2                 | 003      |  |
|  |              | S TOUL E  |  |                | Group Art Unit:               | 2863                          |          |  |
|  | JIII.        | <i>≩</i> /  |  |                | Date Submitted:               | July 21, 2004                 |          |  |
|  | Part.        | TR ADEATH   | U.S. Patent Docur                              | nents          |                               |                               |          |  |
| *Examiner<br>Initial                                     |              | Document<br>Number  | Date   |                | Name                          |                               |          |  |
|  | AA           |   |  |                |                               |                               |          |  |
|  | AB           |   |  |                |                               |                               |          |  |
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|  | AK           |   |  |                |                               |                               |          |  |
|  |              |   | Foreign Patent Doc                             | uments ·       |                               | <b>i</b>                      |          |  |
|  | <b>,</b>     | · · · · · · · · · · · · · · · · · · ·                               |  |                |                               | Trans                         | slation  |  |
|  |              | Document  | Date   |                | Country                       | Yes                           | No       |  |
| an   | AL           | WO 01/43063 A1  | Jun. 14, 2001                                  | PCT            |                               |                               | ン        |  |
| hu   | AM           | WO 03/067511 A2   | Aug. 14, 2003                                  | PCT            |                               |                               | <b>'</b> |  |
|  | AN           | · · · · · · · · · · · · · · · · · · ·                               |  |                |                               |                               |          |  |
|  | ΑP           |   | <u> </u>                                       |                |                               |                               |          |  |
|  |              | OTHER ART (Incl   | uding Author, Title,                           | Date, Pertinei | nt Pages, Etc.)               |                               |          |  |
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| J.S. Department of Commerce, Patent and Trademark Office |      |                           |   |                 | Attorney Docket No.: | 081-0003                                       | · .  |
|--|------|---------------------------|---|-----------------|----------------------|--|--|
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| INFORMATION DISCLOSURE STATEMENT BY APPLICANT            |      |                           |   |                 | Applicant(s):        | Darius Martin<br>and Nicholas P<br>Roland Hill |  |
|  |      | (Use several sheets if no |   | Filing Date:    | December 5, 20       | 003  |  |
|  |      |                           |   | Group Art Unit: | 2863                 |  |  |
|  |      |                           |   | Date Submitted: | September 16, 2004   |  |  |
|  |      |                           | U.S. Pateut Docu                        | ments           |                      |  | ga trake a                                       |
| Examiner<br>Initial                                      |      | Document<br>Number        | Date                                    |                 | Name                 |  |  |
| M  | AA   | 5,717,432                 | 10 Feb 1998                             | Miwa et al.     |                      |  |  |
| - <del></del>  | AB   |                           |   |                 |                      |  |  |
|  | AC   |                           |   |                 |                      | · · · · · · · · · · · · · · · · · · ·          |  |
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|  | lur  | U 17' La 1                |   | 19/5            | 104                  |  |  |